



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,962	03/02/2004	Junya Maruyama	0553-0313-01	2106
7590	12/10/2004		EXAMINER	
Edward D. Manzo Cook, Alex, McFarron, Manzo, Cummings & Mehler, Ltd. 200 West Adams St., Ste. 2850 Chicago, IL 60606			GEYER, SCOTT B	
			ART UNIT	PAPER NUMBER
			2829	
DATE MAILED: 12/10/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/790,962	MARUYAMA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Scott B. Geyer	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 28 September 2004.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 19-40 is/are pending in the application.
- 4a) Of the above claim(s) 19-22, 25-28, 30, 33 and 35-40 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 23, 24, 29, 31, 32 and 34 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 02 March 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. 10/131,435.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0304.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. 1204.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of claims 23, 24, 29, 31, 32 and 34 in the reply filed on September 28, 2004 is acknowledged. (*The applicant's response submitted on 9-28-04 states that claims 21 and 22 were also elected; see the attached interview summary as to why these are excluded.*)

***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/131,435, filed on April 24, 2002.

***Information Disclosure Statement***

3. The references cited within the IDS, submitted on March 2, 2004 have been considered.

***Drawings***

4. The drawings are objected to because of minor informalities.

Figure 11B, numeral "513" (pointing towards the concave portion) should be - - 513a - -;

Figure 5: numeral "305" needs to be identified as in specification page 15, lines 10-22.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Specification***

5. The disclosure is objected to because of the following informalities:

Page 1, first paragraph: applicant is advised to insert the corresponding information indicating that the instant application is a divisional of application 10/131,435.

Page 1, lines 10 and 11: the sentence should be re-written as it does not make sense ("The development of a light...in recent years");

Page 1, line 12: change "have" to - - has - -;

Page 1, line 14: clarify "the angle of view wide";

Page 1, line 20: delete "the";

Page 3, line 23: change "have" to - - has - -;

Page 4, line 23: change "swell" to - - well - -;

Page 5, line 9: add a period after "object";

Page 7, line 22: delete space between "portion" and the period;

Page 9, line 14: delete the word "to" after "bonded";

Page 9, line 15: insert - - to - - after the word "pattern".

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 23, 29 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Minemier et al. (6,093,938).

7A. As to claim 23, Minemier et al. teach a method of bonding two substrates, as shown in figure 2. A first substrate 10 and a second substrate 26, as depicted in figure 2, are positioned such that they can be bonded together. At least one concave portion is formed in the first and second substrate, where the seal pattern is located. The concave portions are designated by numerals 18 and 28; the seal pattern is depicted by solder balls, designated by numeral 29, which are located within the concave portions 18 & 28. The first substrate and the second substrate are arranged to oppose each other when the solder is hardened (see also column 2, lines 13 et seq. for seal hardening).

As to the limitation of claim 23, line 5, which states that the "first substrate" is at an upper side" and the second substrate" is at a lower side, figure 2 of Minemier et al. depicts an arrangement showing substrate 26 "above" substrate 10. Minemier et al. further labels substrate 10 as the "first substrate" and substrate 26 as the "second substrate". However, the labels assigned to each substrate is interpreted by the examiner to be arbitrary; i.e. the top substrate and bottom substrate, as aligned in figure

2 and the relationship between the two substrates is key to the reference being applied as prior art, not the labels applied to each substrate by the reference. Furthermore, for purposes of addressing dependent claim 24 (paragraph 9A below), the "bottom substrate" 10 is the "first substrate" for purposes of addressing the limitations of that claim with regards to the light emitting element.

**7B.** As to claim 29, Minemier et al. teach a method of bonding two substrates. A first substrate 10 and a second substrate 26 are depicted in figure 2. At least one concave portion 18 is formed in a front surface of the second substrate. A sealing material (i.e. solder) 29 fills the concave portion and the two substrates are bonded utilizing the solder (see also column 2, lines 13 et seq.).

**7C.** As to claim 32, Minemier et al. teach a method of bonding two substrates. A first substrate 10 and a second substrate 26 are depicted in figure 2. At least one concave portion 18 is formed in a front surface of the second substrate. A sealing material (i.e. solder) 29 fills the concave portion and the two substrates are bonded utilizing the solder (see also column 2, lines 13 et seq.).

#### ***Claim Rejections - 35 USC § 103***

**8.** The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 24, 31 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minemier et al. as applied to claims 23, 29 and 32 above (respectively), and further in view of Guha et al. (5,739,545).

9A. As to claim 24, Minemier et al. teach all of the limitations of claim 24, as noted above for claim 23, including formation of a light emitting diode (LED) 20 on the first substrate 10. Minemier et al. do not specifically teach the LED being an OLED (i.e. organic LED) which has an anode, a cathode and an organic layer. However, Guha et al. teach organic light emitting diodes, which have an anode, a cathode and an organic layer, as detailed in figure 2. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the LED of Minemier et al. to be an OLED as taught by Guha et al. since OLEDs can be deposited on a wide range of substrates and are less expensive to produce than LEDs.

9B. As to claim 31, Minemier et al. teach all of the limitations of claim 31, as noted above for claim 29, including formation of a light emitting diode (LED) 20 on the first substrate 10. Minemier et al. do not specifically teach the LED being an OLED (i.e. organic LED) which has an anode, a cathode and an organic layer. However, Guha et al. teach organic light emitting diodes, which have an anode, a cathode and an organic layer, as detailed in figure 2. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the LED of Minemier et al. to be an OLED as taught by Guha et al. since OLEDs can be deposited on a wide range of substrates and are less expensive to produce than LEDs.

9C. As to claim 34, Minemier et al. teach all of the limitations of claim 34, as noted above for claim 32, including formation of a light emitting diode (LED) 20 on the first substrate 10. Minemier et al. do not specifically teach the LED being an OLED (i.e. organic LED) which has an anode, a cathode and an organic layer. However, Guha et al. teach organic light emitting diodes, which have an anode, a cathode and an organic layer, as detailed in figure 2. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the LED of Minemier et al. to be an OLED as taught by Guha et al. since OLEDs can be deposited on a wide range of substrates and are less expensive to produce than LEDs.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott B. Geyer whose telephone number is (571) 272-1958. The examiner can normally be reached on weekdays, between 10:00am - 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Tokar can be reached on (571)272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Art Unit: 2829

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**SCOTT GEYER  
PATENT EXAMINER**

SBG

December 8, 2004



12/8/04